# Presence of High-Level Gentamicin-Resistant (HLGR) Enterococci in Humans and Retail Chicken Products in the U.S.

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**Background**: High-level gentamicin-resistant (HLGR) (*Enterococcus* faecalis and E. faecium) are an increasing cause of human morbidity and mortality in the U.S.. Because gentamicin is heavily used in the chicken industry in the U.S., we surveyed retail chickens and human stools in both countries for HLGR enterococci.

**Methods**: Four collaborating laboratories used enterococcal selective media (CNA agar) and Ford agar supplemented with arabinose and gentamicin (gentamicin-resistant selective media) to culture human stools from outpatients and healthy volunteers, and chickens purchased from grocery stores; enterococcal isolates were forwarded to CDC for species identification and antimicrobial susceptibility testing using broth microdilution.

**Results**: Enterococci were isolated from 278 (68%) of 410 human stools using CNA agar. So far,148 (53%) isolates were tested; isolates from 6 (4.1%) yielded HLGR, including 2 (4.5%) of 44 E. faecium, 4 (6%) of 67 E. faecalis and 0 (0%) of 24 other enterococci species. Using gentamicin-resistant selective media, enterococci were isolated from 33 (8%) of stools. So far, 4 (12%) were tested; 4 (100%) were HLGR, including 1 (25%) of E. faecium and 3 (75%) of E. faecalis. Carriage rate of HLGR enterococci in human stools was 1%. Enterococci were isolated from 344 (84%) of 410 chicken samples. So far, 193 (56%) were tested; 75 (39%) were HLGR, including 1 (13%)of 8 E. Faecium, 67(46%) of 146 E. Faecalis, and 8 (47%) of 17 other enterococci species. Using gentamicin-resistant selective media, enterococci were isolated from 313( 76%) of chickens. So far, 225 were tested ; 214 (95%) yielded HLGR, including 65 (93%) of 70 E. faecium, and 99 (95%)of 104 E. faecalis, and 9 (100%) of 9 other species.

**Discussion**: The high prevalence of HLGR enterococci in chickens may be associated with the heavy use of gentamicin in the U.S. chicken industry. HLGR enterococci were found in human stools in collected from outpatients and healthy volunteers, possibly due to ingestion of chicken containing HLGR enterococci. Additional studies are needed to further evaluate the relationship between human and chicken HLGR enterococci.

**Suggested citation**:

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